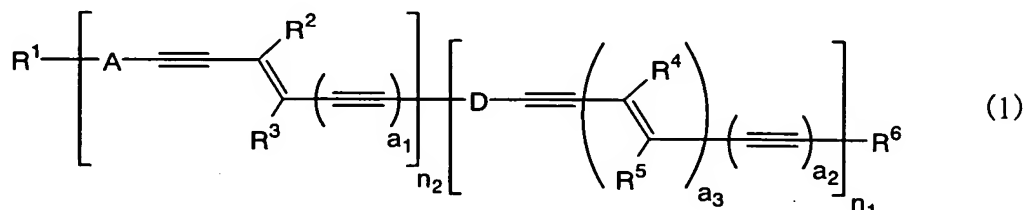


CLAIMS:

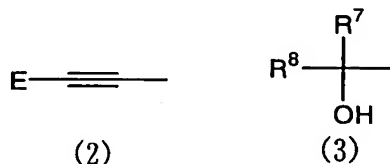
1. A π -conjugated aromatic ring-containing compound, characterized by being represented by the formula (1)

5 [Chemical Formula 1]



{wherein R^1 represents a hydrogen atom, a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 10 carbon atoms, a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted with a fluorine atom or chlorine atom, or a group represented by the following formula (2) or a group represented by the following formula (3)}

15 [Chemical Formula 2]



[wherein E represents a hydrogen atom, a substituted silyl group, a phenyl group, a naphthyl group, a pyridyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazinyl group, a furanyl group, a pyrrolyl group, a pyrazolyl group, an imidazolyl group or a thienyl group (provided that said phenyl group, naphthyl group, pyridyl group, pyrimidinyl group, pyridazinyl group, pyrazinyl group, furanyl group, pyrrolyl group, pyrazolyl group, imidazolyl group or thienyl group may be optionally substituted with a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group

having 1 to 10 carbon atoms, or a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted with a fluorine or chlorine atom),

5 R^7 and R^8 independently represent an alkyl group having 1 to 10 carbon atoms],

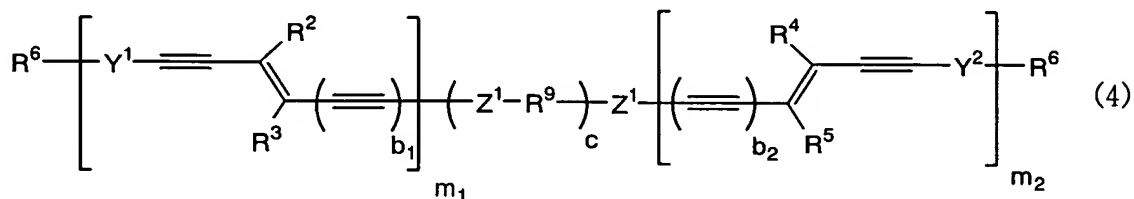
R^2 , R^3 , R^4 , and R^5 independently represent a hydrogen atom or an alkyl group having 1 to 10 carbon atoms,

R^6 represents a hydrogen atom, a substituted silyl group, a phenyl group, a naphthyl group, a pyridyl group, a
10 pyrimidinyl group, a pyridazinyl group, a pyrazinyl group, a furanyl group, a pyrrollyl group, a pyrazolyl group, an imidazolyl group, a thienyl group (provided that the phenyl group, naphthyl group, pyridyl group, pyrimidinyl group, pyridazinyl group, pyrazinyl group, furanyl group, pyrrollyl
15 group, pyrazolyl group, imidazolyl group or thienyl group may be optionally substituted with a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 10 carbon atoms, or a halogenated alkyl group that has 1
20 to 10 carbon atoms and may be optionally substituted with a fluorine or chlorine atom), a group represented by the afore-indicated formula (2) or a group represented by the afore-indicated formula (3),

 A and D independently represent a naphthalene ring, an
25 anthracene ring, a phenanthrene group, a phenarene ring, a fluorene ring, a triphenylene ring, a pyrene ring, a perylene ring, a pyridine ring, a pyrimidine ring, a pyridazine ring, a pyrazine ring, a furan ring, a pyrrole ring, a pyrazole ring, an imidazole ring, a thiophene ring, a benzothiadiazole ring, a
30 thieno[3,4-b]pyrazine ring, a furo[3,4-b]pyrazine ring or a 6H-pyrrolo[3,4-b]pyrazine ring (provided that these rings may be optionally substituted with a phenyl group, a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms,
35 an alkyl group having 1 to 10 carbon atoms or a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted with a fluorine atom or a chlorine atom),

a_1 , a_2 , and a_3 are independently 0 or 1, and
 n_1 and n_2 are independently an integer of 1 to 5}.

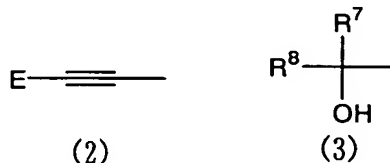
2. A π -conjugated aromatic ring-containing compound,
 5 characterized by being represented by the formula (4)
 [Chemical Formula 3]



[wherein R^2 , R^3 , R^4 , and R^5 independently represent a hydrogen atom or an alkyl group having 1 to 10 carbon atoms,

- 10 R^6 represents a hydrogen atom, a substituted silyl group, a phenyl group, a naphthyl group, a pyridyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazinyl group, a furanyl group, a pyrrolyl group, a pyrazolyl group, an imidazolyl group, a thienyl group (provided that the phenyl group,
 15 naphthyl group, pyridyl group, pyrimidinyl group, pyridazinyl group, pyrazinyl group, furanyl group, pyrrolyl group, pyrazolyl group, imidazolyl group or thienyl group may be optionally substituted with a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having
 20 1 to 10 carbon atoms, or a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted with a fluorine or chlorine atom), a group represented by the formula (2) or a group represented by the formula (3),

- 25 [Chemical Formula 4]



[wherein E represents a hydrogen atom, a substituted silyl group, a phenyl group, a naphthyl group, a pyridyl group, a

pyrimidinyl group, a pyridazinyl group, a pyrazinyl group, a furanyl group, a pyrrollyl group, a pyrazolyl group, an imidazolyl group or a thienyl group (provided that said phenyl group, naphthyl group, pyridyl group, pyrimidinyl group, pyridazinyl group, pyrazinyl group, furanyl group, pyrrollyl group, pyrazolyl group, imidazolyl group or thienyl group may be optionally substituted with a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 10 carbon atoms, or a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted with a fluorine or chlorine atom),

R⁷ and R⁸ independently represent an alkyl group having 1 to 10 carbon atoms],

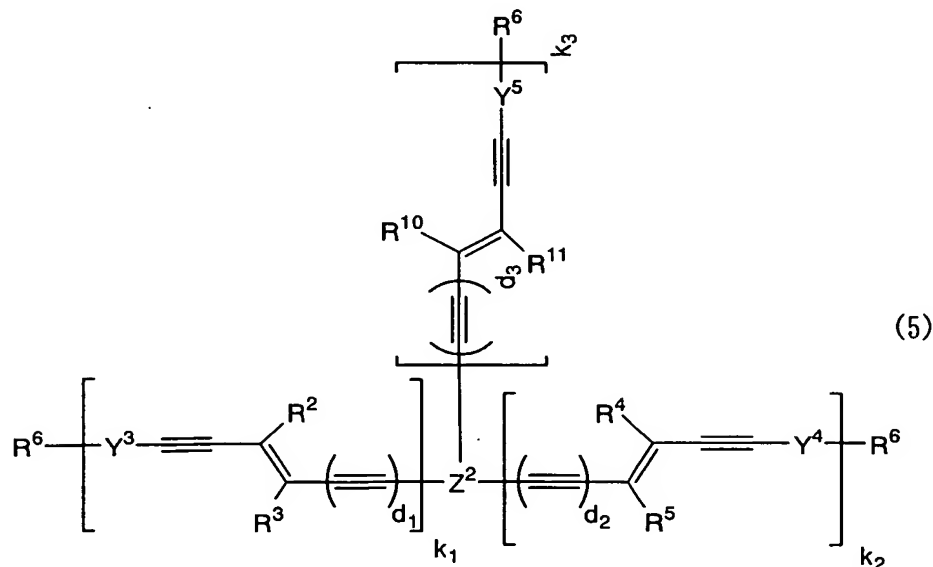
Z¹, Y¹, and Y² independently represent a benzene ring, a naphthalene ring, an anthracene ring, a phenanthrene group, a phenarene ring, a fluorene ring, a triphenylene ring, a pyrene ring, a perylene ring, a pyridine ring, a pyrimidine ring, a pyridazine ring, a pyrazine ring, a furan ring, a pyrrole ring, a pyrazole ring, an imidazole ring, a thiophene ring, a benzothiadiazole ring, a thieno[3,4-b]pyrazine ring, a furo[3,4-b]pyrazine ring or a 6H-pyrrolo[3,4-b]pyrazine ring (provided that these rings may be optionally substituted with a phenyl group, a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 10 carbon atoms or a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted with a fluorine atom or a chlorine atom), R⁹ represents a single bond, -O-, -S-, -S(O)-, -S(O₂)-, -C(O)O-, -OC(O)-, -C(S)O-, -OC(S)-, -C(O)NH-, -NHC(O)-, -C(S)NH-, -NHC(S)-, -NH- or a divalent saturated or unsaturated hydrocarbon group that has 1 to 8 carbon atoms and may be branched,

b₁ and b₂ are independently 0 or 1,

c is an integer of 0 to 3, and

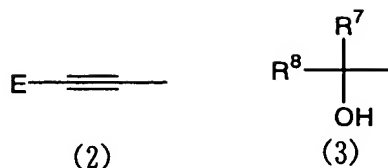
m₁ and m₂ are independently an integer of 1 to 5].

3. A π -conjugated aromatic ring-containing compound,
characterized by being represented by the formula (5)
[Chemical Formula 5]



5 {wherein R^2 , R^3 , R^4 , and R^5 independently represent a hydrogen atom or an alkyl group having 1 to 10 carbon atoms,
 R^6 represents a hydrogen atom, a substituted silyl group, a phenyl group, a naphthyl group, a pyridyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazinyl group, a
10 furanyl group, a pyrrollyl group, a pyrazolyl group, an imidazolyl group, a thienyl group (provided that the phenyl group, naphthyl group, pyridyl group, pyrimidinyl group, pyridazinyl group, pyrazinyl group, furanyl group, pyrrollyl group, pyrazolyl group, imidazolyl group or thienyl group may
15 be optionally substituted with a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 10 carbon atoms, or a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted
20 with a fluorine or chlorine atom), a group represented by the formula (2) or a group represented by the formula (3),

[Chemical Formula 6]



[wherein E represents a hydrogen atom, a substituted silyl group, a phenyl group, a naphthyl group, a pyridyl group, a pyrimidinyl group, a pyridazinyl group, a pyrazinyl group, a furanyl group, a pyrrolyl group, a pyrazolyl group, an imidazolyl group or a thienyl group (provided that said phenyl group, naphthyl group, pyridyl group, pyrimidinyl group, pyridazinyl group, pyrazinyl group, furanyl group, pyrrolyl group, pyrazolyl group, imidazolyl group or thienyl group may be optionally substituted with a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 10 carbon atoms, or a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted with a fluorine or chlorine atom),

R⁷ and R⁸ independently represent an alkyl group having 1 to 10 carbon atoms],

R¹⁰ and R¹¹ independently represent a hydrogen atom or an alkyl group having 1 to 10 carbon atoms,

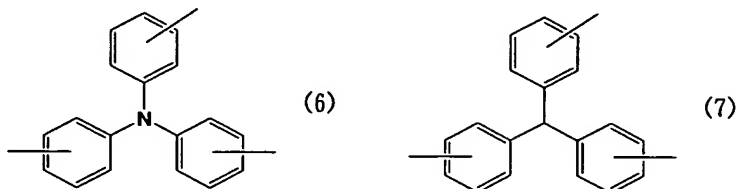
Y³ to Y⁵ independently represent a benzene ring, a naphthalene ring, an anthracene ring, a phenanthrene group, a phenarene ring, a fluorene ring, a triphenylene ring, a pyrene ring, a perylene ring, a pyridine ring, a pyrimidine ring, a pyridazine ring, a pyrazine ring, a furan ring, a pyrrole ring, a pyrazole ring, an imidazole ring, a thiophene ring, a benzothiadiazole ring, a thieno[3,4-b]pyrazine ring, a furo[3,4-b]pyrazine ring or a 6H-pyrrolo[3,4-b]pyrazine ring (provided that these rings may be optionally substituted with a phenyl group, a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 10 carbon atoms or a halogenated alkyl group that has 1 to 10

carbon atoms and may be optionally substituted with a fluorine atom or a chlorine atom),

Z^2 represents a trivalent aryl group, a group represented by the following formula (6) or a group

5 represented by the following formula (7)

[Chemical Formula 7]



d_1 to d_3 are independently 0 or 1, and

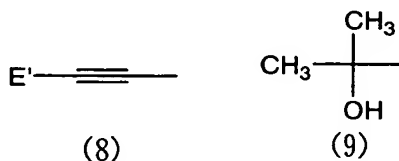
k_1 to k_3 are independently an integer of 1 to 5}.

10

4. The π -conjugated aromatic ring-containing compound according to Claim 1, characterized in that said R^1 is a hydrogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, a methoxy group, a propoxy group, a methyl group, a trifluoromethyl group, a group represented by the following formula (8) or a group represented by the following formula (9)

15

[Chemical Formula 8]



20 [wherein E' represents a hydrogen atom, a trimethylsilyl group, a tri-*i*-propylsilyl group, a phenyl group, a pyridyl group, a thienyl group (provided that the phenyl group, pyridyl group or thienyl group may be optionally substituted with a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, a methoxy group, an *n*-propoxy group, a methyl group or a trifluoromethyl group)].

25

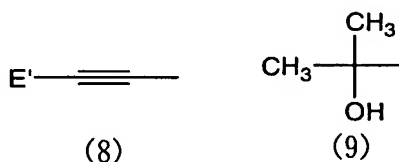
5. The π -conjugated aromatic ring-containing compound according to any one of Claims 1 to 4, characterized in that said R^2 , R^3 , R^4 , and R^5 independently represent a hydrogen atom, a methyl group, an ethyl group or an n-propyl group.

5

6. The π -conjugated aromatic ring-containing compound according to any one of Claims 1 to 5, characterized in that said R^6 is a hydrogen atom, a trimethylsilyl group, a tri-i-propylsilyl group, a phenyl group, a pyridyl group, a thienyl group (provided that said phenyl group, pyridyl group or thienyl group may be optionally substituted with a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, a methoxy group, an n-propoxy group, a methyl group or a trifluoromethyl group), a group represented by the following formula (8) or a group represented by the following formula (9),

15

[Chemical Formula 9]



[wherein E' represents a hydrogen atom, a trimethylsilyl group, a tri-i-propylsilyl group, a phenyl group, a pyridyl group, a thienyl group (provided that the phenyl group, pyridyl group or thienyl group may be optionally substituted with a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, a methoxy group, an n-propoxy group, a methyl group or a trifluoromethyl group)].

20

25

7. The π -conjugated aromatic ring-containing compound according to Claim 1, characterized in that said A and D independently represent a pyridine ring, a pyrimidine ring, a pyridazine ring, a pyrazine ring, a furan ring, a pyrrole ring, a pyrazole ring, an imidazole ring, a thiophene ring, a benzothiadiazole ring, a thieno[3,4-b]pyrazine ring, a

30

furo[3,4-b]pyrazine ring or a 6H-pyrrolo[3,4-b]pyrazine ring (provided that these rings may be optionally substituted with a phenyl group, a halogen atom, a cyano group, a nitro group, a dimethylamino group, a diphenylamino group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 10 carbon atoms or a halogenated alkyl group that has 1 to 10 carbon atoms and may be optionally substituted with a fluorine atom or a chlorine atom).

8. The π -conjugated aromatic ring-containing compound according to Claim 7, characterized in that said A and D independently represent a pyridine ring, a pyridazine ring, a thiophene ring, a benzothiadiazole ring or a thieno[3,4-b]pyrazine ring (provided that these rings may be optionally substituted with a phenyl group, a cyano group, a methoxy group, an n-propoxy group, a methyl group or a trifluoromethyl group).

9. The π -conjugated aromatic ring-containing compound according to Claim 2, 5, or 6, characterized in that said Z¹, Y¹, and Y² independently represent a benzene ring, a naphthalene ring, an anthracene ring, a pyridine ring, a pyridazine ring, a thiophene ring, a pyrrole ring, a benzothiadiazole ring or a thieno[3,4-b]pyrazine ring (provided that these rings may be optionally substituted with a phenyl group, a cyano group, a methoxy group, an n-propoxy group, a methyl group or a trifluoromethyl group), and R⁹ represents a single bond or -O-, b₁ and b₂ are both 1, and c is 0 or 1.

30

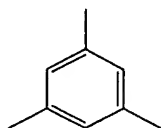
10. The π -conjugated aromatic ring-containing compound according to Claim 3, 5, or 6, characterized in that said Y³ to Y⁵ independently represent a phenylene ring, a naphthalene ring, an anthracene ring, a pyridine ring, a pyridazine ring, a thiophene ring, a pyrrole ring, a benzothiadiazole ring or a thieno[3,4-b]pyrazine ring (provided that these rings may be

35

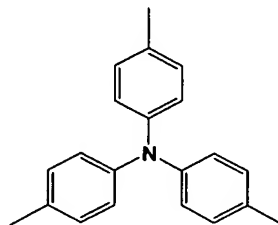
optionally substituted with a phenyl group, a cyano group, a methoxy group, an n-propoxy group, a methyl group or a trifluoromethyl group), Z^2 is a group represented by the following formula (10) or a group represented by the following
5 formula (11), and

d_1 to d_3 are all 1.

[Chemical Formula 10]



(10)



(11)

- 10 11. An organic electroluminescent device of a type which comprises an anode and a cathode, and an organic thin film layer interposed their between, characterized in that said organic thin film layer is a layer constituted to contain the π -conjugated aromatic ring-containing compound defined in any
15 one of Claims 1 to 10.